

CLAIMS

1. A method for use in a communication system, the method comprising a first gatekeeper receiving a request for information; if the information is not known by the first gatekeeper, the first gatekeeper sending the request only to a second gatekeeper, if the information is not known by said second gatekeeper, the second gatekeeper sending the request only to a third gatekeeper, and if the information is known by the third gatekeeper, the third gatekeeper sending the information to the first gatekeeper, the first, second and third gatekeepers being at a single gatekeeper hierarchical level.
2. The invention of claim 1 wherein the third gatekeeper sends the information to the first gatekeeper via the second gatekeeper.
3. The invention of claim 1 wherein each of said first, second and third gatekeepers communicates with respective subscriber terminals.
4. The invention of claim 3 wherein the first gatekeeper is adapted to cache the information received by the first gatekeeper so that if said first gatekeeper is again requested for said information, said first gatekeeper will be able to provide said information to the source of the request.
5. The invention of claim 3 wherein the requested information is an address.
6. The invention of claim 5 wherein said address is an application address, a network address or a resource address.
7. The invention of claim 6 wherein each of said first, second and third gatekeepers establishes communication between its respective subscriber terminals.

8. The invention of claim 3 wherein the requested information is information about a resource.

9. The invention of claim 8 wherein each of said first, second and third gatekeepers establishes communication between its respective subscriber terminals.

10. The invention of claim 8 wherein said resource is one of: bandwidth, a port, a buffer, a link, a trunk, processing unit capacity, and a quality-of-service parameter.

11. The invention of claim 3 wherein each of the gatekeepers is adapted to use signaling messages conforming to International Telecommunications Union standard H.323 to receive and transmit information between at least itself and its respective subscriber terminals.

12. A gatekeeper for use in a communication system, said gatekeeper comprising

a processor; and

a memory coupled to said processor, said memory storing instructions adapted to be executed by said processor for performing the steps of:

- (a) receiving at said gatekeeper a request for information;
- (b) determining whether the information is known by said gatekeeper;
- (c) if the information is not known by said gatekeeper, sending the request via a second gatekeeper to a third gatekeeper, all three of said gatekeepers being at a single gatekeeper hierarchical level; and
- (d) receiving the requested information from the third gatekeeper.

13. The invention of claim 12 wherein said requested information is received from the third gatekeeper via the second gatekeeper.

14. The invention of claim 12 wherein said gatekeeper is adapted to cache the information received from the third gatekeeper so that if said gatekeeper is again requested for said information, it will be able to provide said information to the source of the request.

15. The invention of claim 12 wherein the requested information is an address.

16. The invention of claim 15 wherein said address is an application address, a network address or a resource address.

17. The invention of claim 12 wherein the requested information is information about a resource.

18. The invention of claim 17 wherein said resource is one of: bandwidth, a port, a buffer, a link, a trunk, processing unit capacity, and a quality-of-service parameter.

19. The invention of claim 12 wherein said gatekeeper is adapted to use signaling messages conforming to International Telecommunications Union standard H.323 to receive and transmit information between itself and at least one other gatekeeper and to communicate with said each gatekeeper's associated communicating entities.

20. A communication system comprising at least first through third gatekeepers and a plurality of communicating entities, said first through third gatekeepers being adapted to receive and transmit signaling messages among themselves and each of the first through third gatekeepers being adapted to receive and transmit signaling messages between itself and associated ones of the communicating entities and each of the first through third gatekeepers being further adapted to establish communication between said its associated communicating entities, wherein

said first gatekeeper directly communicates gatekeeper-to-gatekeeper information request signaling messages only with said second gatekeeper,

said second gatekeeper directly communicates gatekeeper-to-gatekeeper information request signaling messages with said first gatekeeper and said third gatekeeper,

 said third gatekeeper directly communicates gatekeeper-to-gatekeeper information request signaling messages with said second gatekeeper but not with said first gatekeeper,

 said first, second and third gatekeepers all being at a single gatekeeper hierarchical level within said communication system.

21. The invention of claim 20 wherein each particular gatekeeper that receives requested information from another one of the gatekeepers stores that information within that particular gatekeeper so that if that particular gatekeeper is again requested for said information, it will be able to provide said information to the source of the request.

22. The invention of claim 20 wherein ones of said gatekeeper-to-gatekeeper signaling messages include requests for at least one of an application address, a network address or a resource address.

23. The invention of claim 20 wherein ones of said gatekeeper-to-gatekeeper signaling messages include requests for information about a resource.

24. The invention of claim 23 wherein said resource is one of: bandwidth, a port, a buffer, a link, a trunk, processing unit capacity, and a quality-of-service parameter.

25. The invention of claim 20 wherein at least said gatekeeper-to-gatekeeper signaling messages conform to an international standard for packet-based communications.

26. The invention of claim 20 wherein at least ones of the communicating entities are terminals, gateways, multipoint control units or communication networks.